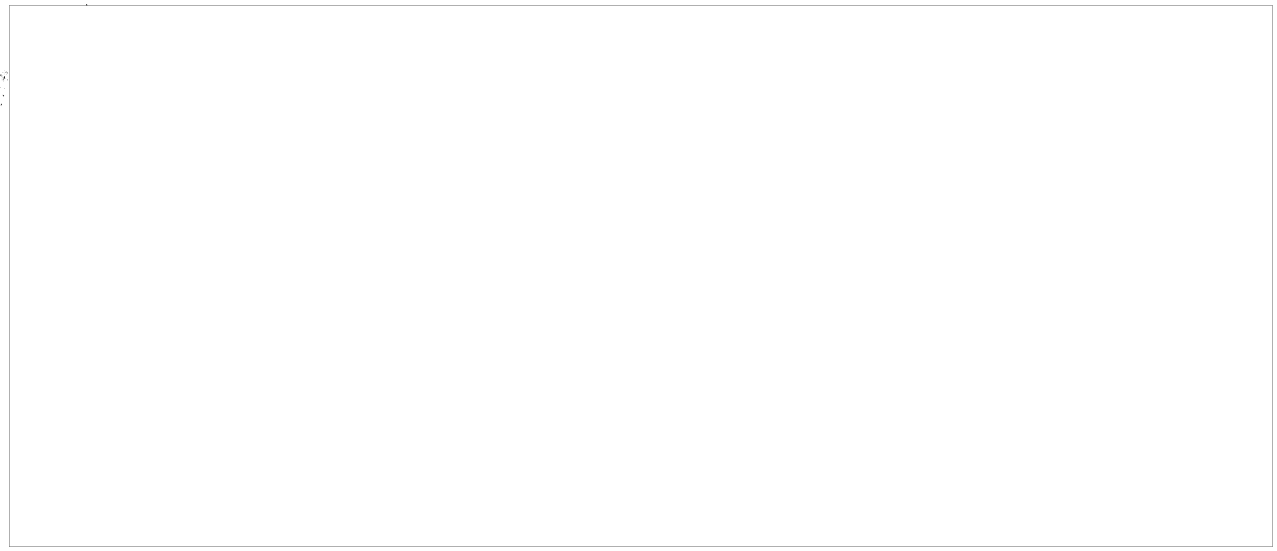
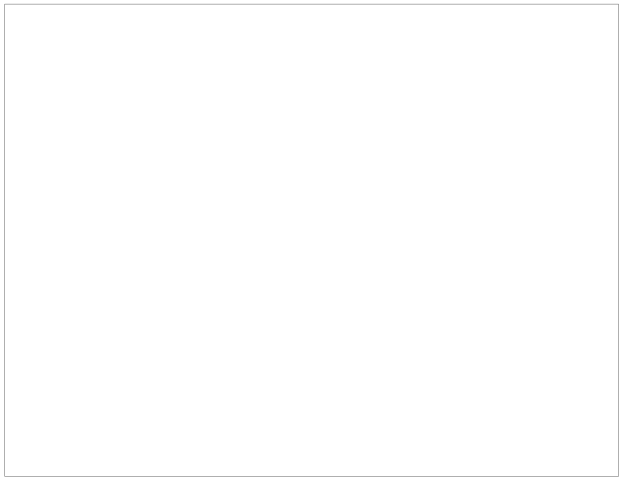


STAT

INDIVIDUAL SEMI-MICROANALYSIS OF HYDROCARBON GASES OF THE METHANE SERIES

by N. G. Gurevich

Source: Zhurnal Analiticheskoy Khimii, Vol IV, No 6, 359-364, 1949



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INDIVIDUAL SEMI-MICROANALYSIS OF HYDROCARBON GASES OF THE METHANE SERIES

by M. G. Gurevich
Gas Laboratory,
Institute of Geological Sciences,
Academy of Sciences USSR

[A Summary]

The author begins with a summary of what has been accomplished so far in the analysis of the individual components of petroleum, coal, and other natural gases. Credit is given to G. A. Burrell(1) and M. Shepherd(2) for the initial use of apparatus designed to draw off the fractions successively at temperatures guaranteeing the greatest ratio between the vapor pressures of the various components, but their apparatus is also called inferior to that of W. J. Podbielniak(3) and V. A. Sokolov(4).

Podbielniak's apparatus was characterized as especially suited for the analysis of mixtures composed of the heavier gaseous hydrocarbons (beginning with butane and higher) and the liquid hydrocarbons.

Sokolov's apparatus was termed more suitable for the analysis of butane, and lower homologues, and for this reason it is widely used in the analysis of "dry" petroleum gases.

L. A. Potolovskiy(5) adapted Sokolov's apparatus for use in the analysis of Apsherovskiy gases. His modified apparatus was claimed to have a sensitivity of about 0.2%, and an error of not more than tenths of a percent of the total volume occurring in the distillation.

Since the concentration of hydrocarbon content in coal, peat, and other gases may vary greatly -- from 100% to thousandths of a percent -- the author developed an apparatus, similiar in design to Sokolov's, which increased the sensitivity (mainly through changes in the measuring devices of the apparatus) to 1.10^{-3}% in the lower ranges.

References (Selected)

1. G. A. Burrell, F. M. Siebert, and J. W. Robertson [sic], "Analysis of Natural Gas," Bureau of Mines, Technical Paper No 104.

2. M. Shepherd, "The Accurate Determination of the Gasoline Content in Natural Gas," Bureau of Standards Research Paper No 75, 1929.

3. W. J. Podbielniak, Ind. Eng. Chem. Anal. Ed. IX, 1933.

4. V. A. Sokolov, "Methods of Investigation of Natural Gases," Petroleum Publishing House, 1932.

5. L. A. Potolovskiy, "Natural Petroleum Gases of Apsheronskiy Peninsula," Aznefteizdat, 1944.